

# MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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## Leading Work-Related Diseases and Injuries — United States

*The National Institute for Occupational Safety and Health (NIOSH) has developed a suggested list of the 10 leading work-related diseases and injuries. Summaries of three of these categories ("Occupational Lung Diseases," "Musculoskeletal Injuries," and "Occupational Cancers") have recently been published (1-3). The fourth category "Amputations, Fractures, Eye Loss, Lacerations, and Traumatic Death," is summarized below.*

### SEVERE OCCUPATIONAL TRAUMATIC INJURIES

Severe occupational traumatic injuries usually occur suddenly on the job and are either fatal or require immediate medical care. Data on these events are available from several different sources, including: the National Electronic Injury Surveillance System (NEISS) of the Consumer Product Safety Commission (4); the Supplementary Data System (SDS) of the Bureau of Labor Statistics (BLS) (5); the Annual Survey of Occupational Injuries and Illnesses conducted by the BLS (6); and the National Safety Council (7). The National Safety Council and the Annual Survey of the BLS estimate occupational traumatic deaths.

These sources report different aspects of the problem because of differences in the scope of events that each system tries to reflect. NEISS reports cases of occupational trauma from a representative sample of U.S. hospital emergency rooms. SDS records information from Workers' Compensation claims filed in 33 states. As required by the Occupational Safety and Health Administration, the Annual Survey of the BLS reports traumatic events occurring in the private sector; thus, it does not include traumatic events in the public sector, on farms with 10 or fewer employees, and in firms regulated by other federal health and safety laws. The National Safety Council reports data from the National Health Survey (based on 41,000 annual interviews with heads of households) and data from several participating public and private organizations. The definition of "recordable injury" varies considerably among these systems.

Because of these differences, it is not easy to achieve a reliable national composite of severe occupational traumatic injuries. Within the limitations of these data sources, NIOSH estimates that at least 10,000,000 persons suffer traumatic injuries on the job each year. About 30% (at least 3,000,000) of these injuries are severe, and at least 10,000 are fatal.

**Traumatic Deaths:** Each year, an estimated 10,000 persons are killed on the job. The major causes of these deaths are (1) highway motor-vehicle incidents, including to and from work and job-related travel (34%); (2) falls (13%); (3) nonhighway industrial-vehicle incidents (11%); (4) blows (other than by vehicles or equipment) (8%); and (5) electrocutions (7%) (Table 1). Industries with the highest estimated rates of fatal traumatic injury are (1) mining and quarrying, (2) agriculture (including forestry and fishing), and (3) construction (Table 2).

**Amputations:** Although amputations account for less than 1% of estimated injuries, they often impair a worker's skills. An estimated 21,000 workers suffered amputations in 1982. Based on NEISS data, approximately 93% of these amputations were of fingers (8); and 4% of hands and toes. Amputations of fingers most frequently resulted from fingers being caught

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in machines or hand tools (11%) or cut by moving objects, such as saws or slicers (10%). Other important sources of amputations included presses (6%), belts (5%), powered hand tools (2%), and doors or gates (2%). Other specific sources accounted for less than 2% each of occupational amputations.

According to SDS data, amputations occurred in a wide range of industries and occupations. The largest single proportion of amputations (2%) occurred in the manufacture of miscellaneous plastic products, and machine operators had the largest proportion of occupational amputations (8%).\*

**Fractures:** Falls and blows from falling objects produce many types of injuries, the less severe forms being contusions, abrasions, and sprains. During 1982, an estimated 400,000 work-related fractures occurred. SDS data for 1980 included approximately 208,000 compensation claims for fractures. The most frequently listed sources of fractures included floors (13%), the ground (10%), and metal items (7%), suggesting falls as the main cause of such injuries. Specifically, falls to a working surface accounted for 15% of the fractures; blows from unspecified or falling objects accounted for 31%. Fractures occurred most frequently among truck drivers (5%), miscellaneous laborers (4%), and construction laborers (3%).

**Eye Loss:** Although it is difficult to measure the extent of eye loss or blindness among workers, NIOSH estimates (based on NEISS data) indicate that approximately 900,000 occupational eye injuries occurred in 1982. For 84% of these, the trauma was minor, caused mostly by foreign bodies (e.g., pieces of metal, wood, or glass) in the eyes. Burns and avulsions—44% of which were caused by chemicals or acids—accounted for nearly 15% of the estimated occupational eye injuries.\*

**Lacerations:** An estimated 2,250,000 work-related lacerations occurred in 1982, representing 24% of all job-related injuries treated in hospital emergency rooms. Data from compensation claims described in SDS indicate that fingers (48%), arms (24%), legs (13%), and the head and neck (9%) were most likely to be seriously lacerated. These lacerations resulted primarily from being struck by an object (32%) or from striking against a stationary object (25%). The major sources of lacerations are knives (13%), other sharp metal items (13%), saws (6%), glass items (5%), nails (5%), and machines (3%). The settings in which workers in-

\*The remaining percentages are divided among a variety of specific categories, each accounting for less than the smallest percentage given.

**TABLE 1. Distribution of occupational traumatic deaths, by cause—United States, 1980-1981\***

Cause	Percentage
Highway motor-vehicles incidents	34.1
Falls	12.5
Industrial vehicles or equipment	11.4
Blows (other than by vehicles or equipment)	8.0
Electrocutions	6.8
Gun shots	4.5
Aircraft crashes	3.4
Entrapment	3.4
Fires	3.4
Plant machinery operations	3.4
Explosions	2.3
Gas inhalations	2.3
Other	4.5
Total	100.0

\*Adapted from Bureau of Labor Statistics: Occupational Injuries and Illnesses in the United States by Industry, 1981. U.S. Department of Labor Bulletin 2164, January 1983. These revised statistics pertain to private-sector establishments (excluding nonmetal mining and railroads) with 11 or more employees.

***Leading Work-Related Diseases — Continued***

curred the largest proportion of lacerations were eating and drinking establishments (7%), grocery stores (4%), general building construction (2%), and meat packing (2%).\*

*Reported by Div of Safety Research, National Institute for Occupational Safety and Health, CDC.*

**Editorial Note:** Recent analyses of potential life lost due to various causes indicate that "accidents and adverse effects" are the leading cause of the loss of potential years of life in this country (9). Occupational injuries occur at a rate<sup>†</sup> twice that of injuries in the home or in public places (7), and severe traumatic injuries are an important component of all occupational injuries. Severe occupational trauma is second only to motor-vehicle incidents as a cause of unintentional death in the United States (7).

Despite the number of occupational injuries, effective prevention is practiced in many workplaces, and approximately 48% of all employment establishments report no recordable injuries in a given year (6). As with other occupational health hazards, the prevention of severe occupational traumatic injuries rests on the basic principles of control technology: engineering controls, work practices, personal protective equipment, and monitoring of the workplace for emerging hazards. Severe occupational traumatic injuries can be prevented by such specific measures as physical barriers between the worker and the source of injury (e.g., machine guards, light curtains, worker-independent safety circuits, proximity sensors on robots); changes in the design of tools (e.g., knives and slicers) and tasks to reduce the hazard; use of personal protective equipment (e.g., seat belts, protective eye- and footwear, helmets, harnesses); training of workers in the safe performance of tasks; and repeated systematic inspection of the workplace for emerging or previously undetected hazards. A visible, serious, and persistent commitment to safety by both management and labor appears crucial for preventing severe occupational traumatic injuries.

***References***

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3. CDC. Leading work-related diseases and injuries—United States. MMWR 1984;33:125-8.
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6. Bureau of Labor Statistics. Occupational injuries and illnesses in the United States by industry, 1978 (Annual). Washington, D.C.: Bureau of Labor Statistics.
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8. CDC. Occupational finger injuries—United States, 1982. MMWR 1983;32:589-91.
9. CDC. Table V. MMWR 1984;33:209.

\*Injuries per million exposure hours.

**TABLE 2. Occupational traumatic death rates per 100,000 workers, by industry—United States, 1982\***

Industry	Rate
Mining and quarrying	55
Agriculture	52
Construction	40
Transportation and public utilities	26
Government	10
Services	6
Manufacturing	6
Trade	5

\*Adapted from (7) Accident Facts, National Safety Council, 1983 Edition. These rates are estimated by the National Safety Council based on data from the National Center for Health Statistics, state departments of health, state industrial commissions, and the Bureau of Labor Statistics. Agriculture includes forestry and fishing; services includes finance, insurance, and real estate; government includes federal, state, and local; trade includes wholesale and retail.

## A System to Convert ICD Diagnostic Codes for Alcohol Research

The coding of medical diagnoses for morbidity and mortality in the United States and elsewhere is based on a standard system of disease classification developed by the World Health Organization. This system has been updated every 10 years since 1900 to reflect current medical knowledge. The most recent edition, the *International Classification of Diseases Ninth Revision* (ICD-9), was placed in use to classify causes of death beginning with 1979 data. ICD-9 replaced the *International Classification of Diseases Adapted for Use in the United States Eighth Revision* (ICDA-8), which was used from 1969 through 1978.

The ICD-9 diagnostic categories are more specific than those in ICDA-8. Ninth Revision changes related to alcoholism include: (1) discrimination of four types of chronic alcoholic liver disease (ICDA-8 recognized only alcoholic liver cirrhosis); (2) introduction of alcoholic cardiomyopathy and excessive blood level of alcohol as conditions not previously differentiated; and (3) separation of alcoholism into two categories—alcohol dependence syndrome and nondependent abuse of alcohol.

Investigators and policy planners who use data on alcohol-related mortality need to accommodate to the transition from ICDA-8 to ICD-9 in two ways. First, when studying trends or combining data from years before and after the transition (between 1978 and 1979), they should match the ICD-9 categories with ICDA-8 categories to make the data comparable.

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TABLE I. Summary—cases specified notifiable diseases, United States

Disease	18th Week Ending			Cumulative, 18th Week Ending		
	April 21, 1984	April 23, 1983	Median 1979-1983	April 21, 1984	April 23, 1983	Median 1979-1983
Acquired Immunodeficiency Syndrome (AIDS)	91	N	N	1,101	N	N
Aseptic meningitis	64	68	57	1,192	1,280	1,026
Encephalitis: Primary (arthropod-borne & unspc.)	21	14	13	250	283	241
Post-infectious	4	2	4	17	28	28
Gonorrhea: Civilian	15,185	15,608	17,485	244,454	272,010	287,750
Military	343	384	484	6,134	7,418	8,270
Hepatitis: Type A	412	370	461	6,739	7,300	7,751
Type B	468	411	411	7,084	8,780	9,833
Non A, Non B	86	72	N	1,019	1,005	N
Unspecified	109	125	180	1,785	2,203	3,105
Legionellosis	12	10	N	152	180	N
Tularemia	4	7	4	59	63	60
Malaria	24	5	11	187	201	231
Measles: Total*	140	85	86	813	832	898
Indigenous	129	51	N	758	542	N
Imported	11	14	N	55	90	N
Meningococcal infections: Total	78	84	81	1,096	1,061	1,086
Civilian	75	84	81	1,093	1,049	1,077
Military	3	-	-	3	12	9
Mumps	79	50	133	1,146	1,296	2,338
Pertussis	57	28	19	554	493	328
Rubella (German measles)	15	28	72	176	370	870
Syphilis (Primary & Secondary): Civilian	542	647	564	8,590	10,145	9,335
Military	5	5	5	101	145	115
Toxic Shock syndrome	15	7	N	117	142	N
Tuberculosis	443	421	569	6,243	6,870	7,726
Tularemia	1	5	5	22	50	33
Typhoid fever	10	8	8	87	112	117
Typhus fever, tick-borne (RMSF)	2	2	5	18	25	25
Rabies, animal	117	170	160	1,445	1,970	1,762

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1984		Cum. 1984
Anthrax	-	Plague	3
Botulism: Foodborne	5	Poliomyelitis: Total	1
Infant (Pa. 4, Wash. 1, Calif. 2)	37	Paralytic (Md. 1)	1
Other	2	Poliacose (Conn. 1, S.C. 1, Fla. 1)	22
Brucellosis (Arkt. 1)	31	Rabies, human	-
Cholera	1	Tetanus (Fla. 1)	9
Congenital rubella syndrome	1	Trichinellosis	8
Diphtheria	1	Typhus fever, flea-borne (endemic, murine)	6
Leptospirosis (Mo. 1)	6		

\*Two of the 140 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending April 21, 1984 and April 23, 1983 (18th Week)

Reporting Area	AIDS	Aseptic Meningitis			Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
		Primary		Post-infectious			Cum.	1984	1984	1984	NA/NB	Unspecified		
		Cum.	1984	1984		1984		1984	1984	1984	1984	1984	1984	1984
UNITED STATES	1,101	64	250	17	244,454	272,010	412	468	65	109	12	59		
NEW ENGLAND	41	5	16	-	7,562	6,854	7	23	2	7	2	2		
Maine	-	-	-	-	280	387	5	3	-	-	-	-		
N.H.	1	-	4	-	185	190	-	-	-	1	-	-		
Vt.	-	-	2	-	116	108	-	-	-	-	-	-		
Mass.	26	1	6	-	2,965	3,055	1	7	2	6	2	2		
R.I.	1	2	-	-	488	369	-	1	-	-	-	-		
Conn.	13	2	4	-	3,528	2,745	1	12	-	-	-	-		
MID ATLANTIC	518	6	32	1	33,324	34,842	46	65	2	5	-	2		
Upstate N.Y.	47	1	9	1	5,078	5,226	3	10	-	-	-	-		
N.Y. City	372	1	-	-	14,719	14,795	24	15	-	2	-	-		
N.J.	80	1	13	-	5,390	6,457	11	16	2	3	-	-		
Pa.	19	3	10	-	8,137	8,464	8	14	-	-	-	-		
E.N. CENTRAL	54	4	53	4	30,845	39,052	22	39	3	12	5	4		
Ohio	9	2	20	2	8,945	10,323	11	16	1	2	5	1		
Ind.	8	-	11	-	3,537	4,125	1	2	-	3	-	-		
Ill.	31	1	7	2	4,840	10,590	2	4	1	2	-	1		
Mich.	4	1	13	-	9,675	10,533	8	17	-	1	5	2		
Wis.	2	-	2	-	3,848	3,481	-	-	-	-	-	-		
W.N. CENTRAL	7	1	5	-	11,717	13,052	9	9	1	-	-	-		
Minn.	1	-	1	-	1,677	1,882	4	2	-	-	-	-		
Iowa	-	1	3	-	1,351	1,390	1	-	-	-	-	-		
Mo.	4	-	-	-	5,517	6,401	3	6	-	-	-	-		
N. Dak.	-	-	-	-	128	124	-	-	-	-	-	-		
S. Dak.	-	-	-	-	322	361	-	-	-	-	-	-		
Nebr.	1	-	-	-	806	695	1	1	-	-	-	-		
Kans.	1	-	1	-	1,914	2,199	-	-	-	-	-	-		
S. ATLANTIC	127	13	58	7	63,239	68,680	23	88	10	8	1	3		
Del.	3	-	1	-	1,048	1,247	-	-	-	-	-	-		
Md.	14	1	12	-	7,609	8,587	1	10	2	1	-	-		
D.C.	14	1	-	-	4,544	4,980	1	3	-	1	1	1		
Va.	11	1	13	3	5,937	5,895	-	2	-	-	-	-		
W. Va.	2	1	4	-	750	677	-	3	-	-	-	-		
N.C.	2	-	13	3	10,211	9,916	3	7	1	1	-	-		
S.C.	3	1	2	-	5,928	6,762	1	15	-	-	-	-		
Ge.	16	-	2	-	12,406	15,556	2	20	-	-	-	-		
Fla.	62	8	11	1	14,768	15,100	15	31	7	5	-	1		
E.S. CENTRAL	10	2	11	-	21,126	23,338	5	22	2	2	-	-		
Ky.	5	-	2	-	2,540	2,831	1	1	-	1	-	-		
Tenn.	2	-	2	-	8,614	9,354	3	9	1	1	-	-		
Ala.	2	2	7	-	6,766	7,204	1	9	1	-	-	-		
Miss.	1	-	-	-	3,216	3,947	-	3	-	-	-	-		
W.S. CENTRAL	49	8	16	1	34,204	37,467	51	30	5	33	1	3		
Ark.	-	-	-	1	2,954	2,919	2	-	-	5	-	-		
La.	8	-	2	-	7,635	6,522	13	8	2	2	-	-		
Okl.	2	2	3	-	3,678	4,622	12	12	3	-	1	-		
Tex.	39	6	11	-	19,937	24,404	24	10	-	26	-	3		
MOUNTAIN	12	6	7	1	7,623	8,357	44	26	3	9	-	6		
Mont.	-	2	-	-	353	400	-	-	-	1	-	-		
Idaho	-	-	-	-	352	424	4	1	-	-	-	-		
Wyo.	1	-	-	-	231	227	-	-	-	-	-	-		
Colo.	4	1	4	-	2,215	2,429	3	5	-	1	-	-		
N. Mex.	5	1	1	-	1,942	2,080	32	5	3	7	-	4		
Ariz.	1	1	2	1	418	390	2	1	-	-	1	-		
Utah	1	1	-	-	1,231	1,364	3	9	-	-	-	1		
Nev.	-	-	-	-	-	-	-	-	-	-	-	-		
PACIFIC	283	19	52	3	34,804	40,270	205	176	37	33	3	39		
Wash.	10	1	2	-	2,191	2,993	11	8	1	1	1	2		
Oreg.	1	-	-	-	2,127	2,051	14	3	1	1	-	1		
Calif.	270	16	48	3	28,996	33,452	180	163	34	31	2	26		
Alaska	-	-	-	-	882	949	-	-	-	-	-	-		
Hawaii	2	2	2	-	608	825	-	1	1	-	-	10		
Guam	-	U	-	-	50	87	U	U	U	U	U	-		
P.R.	14	-	-	-	1,021	938	2	2	-	-	-	-		
V.I.	-	-	-	-	131	89	-	-	-	-	U	U		
Pac. Trust Terr.	-	U	-	-	-	-	U	U	U	U	U	U		

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 21, 1984 and April 23, 1983 (16th Week)

Reporting Area	Malaria	Measles (Rubella)				Meningococcal Infections		Mumps		Pertussis			Rubella			
		Indigenous		Imported *	Total	Cum. 1983	Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983	
		Cum. 1984	1984	Cum. 1984	1984	Cum. 1984	Cum. 1983	Cum. 1984	1984	Cum. 1984	Cum. 1983	1984	Cum. 1984	Cum. 1983		
UNITED STATES		187	129	756	11	55	632	1,096	79	1,146	57	564	493	15	176	370
NEW ENGLAND	16	41	49	-	-	3	74	2	40	-	9	20	-	19	4	
Maine	-	-	-	-	-	1	1	13	-	-	-	-	-	1	-	
N.H.	-	3	11	-	-	4	-	5	-	2	3	-	-	2	-	
Vt.	1	-	-	-	-	19	-	3	-	5	3	-	-	1	-	
Mass.	9	38	38	-	-	1	24	-	12	-	1	11	-	18	1	
R.I.	1	-	-	-	-	6	1	3	-	1	3	-	-	-	-	
Conn.	5	-	-	-	-	2	20	-	4	-	-	-	-	-	-	
MID ATLANTIC	27	2	18	-	9	16	155	10	155	7	35	119	-	7	22	
Upstate N.Y.	8	1	3	-	2	2	57	1	33	1	19	41	-	5	14	
N.Y. City	5	1	15	-	-	10	14	1	7	-	1	13	-	1	2	
N.J.	10	-	-	-	3	1	38	3	101	-	1	10	-	1	2	
Pa.	4	-	-	-	4	3	46	5	14	6	14	55	-	-	4	
E.N. CENTRAL	17	43	322	1	3	362	200	26	414	3	199	134	3	25	62	
Ohio	4	-	1	-	2	1	63	10	143	3	34	41	-	2	1	
Ind.	-	-	2	1†	1	252	22	-	25	-	136	9	-	1	8	
Ill.	5	35	73	-	-	104	66	9	103	-	11	70	2	13	25	
Mich.	4	8	246	-	-	6	30	7	113	-	10	6	1	5	11	
Wis.	4	-	-	-	-	19	-	30	-	8	8	-	4	17		
W.N. CENTRAL	8	-	-	1†	1	-	61	3	67	1	63	35	-	16	23	
Minn.	-	-	-	1†	1	-	8	-	1	-	3	14	-	1	3	
Iowa	1	-	-	-	-	-	14	-	14	-	3	3	-	-	-	
Mo.	4	-	-	-	-	-	19	1	6	-	10	5	-	-	-	
S.Dak.	-	-	-	-	-	-	1	-	1	-	1	2	-	-	-	
Nebr.	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-	
Kans.	1	-	-	-	-	-	4	-	1	-	2	-	-	-	-	
S. ATLANTIC	35	1	2	-	5	130	252	3	94	1	50	66	1	15	38	
Del.	2	-	-	-	-	-	3	-	2	-	3	12	-	-	-	
Md.	8	-	-	-	-	2	20	1	18	-	-	-	-	-	-	
D.C.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	
Va.	7	-	1	-	1	12	30	-	6	-	7	21	-	-	1	
W. Va.	-	-	-	-	-	-	3	1	19	-	6	2	-	-	-	
N.C.	3	-	-	-	-	-	33	-	10	-	17	3	-	-	6	
S.C.	1	-	-	-	-	-	3	19	-	1	1	6	-	-	-	
Ge.	2	-	-	-	-	-	6	58	-	16	1	17	-	2	5	
Fla.	12	1	1	-	4	107	85	1	22	1	15	6	1	13	28	
E.S. CENTRAL	1	-	1	-	2	1	39	2	22	1	3	5	3	5	5	
Ky.	-	-	1	-	1	4	-	5	-	1	2	-	-	-	-	
Tenn.	-	-	-	-	2	-	17	-	8	1	2	2	-	-	-	
Ala.	1	-	-	-	-	-	12	1	4	-	-	1	1	-	-	
Miss.	-	-	-	-	-	-	6	1	5	-	-	1	3	3	-	
W.S. CENTRAL	6	37	131	9	14	42	120	1	57	3	48	35	-	12	61	
Ariz.	-	-	-	-	-	10	13	-	4	-	10	2	-	2	-	
La.	1	-	-	-	-	-	27	-	-	1	3	2	-	-	9	
Oklahoma	2	-	5	-	-	15	N	N	2	34	15	-	-	10	52	
Tex.	3	37	120	9†	14	32	66	1	53	-	1	16	-	-	-	
MOUNTAIN	8	-	58	-	8	1	38	22	107	5	55	61	1	7	13	
Mont.	-	-	-	-	-	-	1	-	3	-	19	1	1	1	3	
Idaho	-	-	-	-	-	-	4	1	6	-	1	2	-	-	1	
Wyo.	-	-	-	-	-	-	1	-	1	-	3	4	-	-	1	
Colo.	1	-	-	-	-	1	15	-	8	5	17	35	-	-	-	
N. Mex.	-	-	35	-	8	-	6	N	N	-	5	5	-	-	-	
Ariz.	3	-	-	-	-	-	8	21	84	-	7	8	-	-	4	
Utah	2	-	23	-	-	-	3	-	4	-	1	5	-	5	1	
Nov.	-	-	-	-	-	-	1	-	2	-	-	-	-	-	1	
PACIFIC	73	6	177	-	13	77	157	10	180	36	92	18	7	70	142	
Wash.	3	-	38	-	-	2	21	2	23	-	8	1	-	1	5	
Oreg.	1	-	-	-	-	5	23	N	N	1	7	3	-	-	9	
Calif.	66	5	138	-	11	69	109	8	158	1	27	14	6	67	127	
Alaska	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-	
Hawaii	3	-	-	-	2	1	1	-	6	34	50	-	1	2	-	
Guam	-	U	27	U	1	2	1	U	3	U	-	-	U	1	-	
P.R.	2	-	-	-	-	63	3	2	50	-	3	-	3	-	1	
V.I.	-	-	-	-	-	5	-	3	-	-	-	-	-	-	1	
Pac. Trust Terr.	-	U	-	U	-	-	U	-	U	-	-	U	-	U	-	

\*For measles only, imported cases includes both out-of-state and international importations.

N = Not notifiable    U = Unavailable

†International

§ Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 21, 1984 and April 23, 1983 (16th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1984	Cum. 1983		1984	Cum. 1984	Cum. 1983	Cum. 1984	Cum. 1984	Cum. 1984
UNITED STATES	8,590	10,146	15	6,243	6,670	22	87	18	1,445
NEW ENGLAND	186	241	-	166	189	1	3	-	6
Maine	1	5	-	9	13	-	-	-	6
N.H.	3	10	-	8	14	-	-	-	-
Vt.	1	1	-	3	1	-	-	-	-
Maso.	114	159	-	88	81	1	2	-	-
R.I.	8	6	-	17	18	-	-	-	-
Conn.	59	80	-	41	44	-	1	-	-
MID ATLANTIC	1,168	1,241	1	1,157	1,272	-	12	1	91
Upstate N.Y.	82	104	-	194	209	-	7	1	4
N.Y. City	716	732	-	472	503	-	2	-	-
N.J.	217	231	-	233	274	-	3	-	-
Pa.	153	174	1	258	280	-	-	-	87
E.N. CENTRAL	316	578	1	880	886	-	10	1	53
Ohio	84	157	-	173	143	-	3	1	4
Ind.	46	48	-	68	90	-	1	-	6
Ill.	60	271	-	365	367	-	3	-	32
Mich.	97	77	1	210	220	-	1	-	1
Wis.	29	28	-	44	46	-	2	-	10
W.N. CENTRAL	138	118	2	184	241	6	2	2	199
Minn.	30	61	-	25	41	-	2	-	23
Iowa	10	4	2	27	31	-	-	-	49
Mo.	74	42	-	79	128	6	-	2	23
N. Dak.	-	-	-	5	-	-	-	-	28
S. Dak.	2	-	-	3	17	-	-	-	45
Nebr.	6	7	-	8	7	-	-	-	10
Kans.	14	14	-	17	17	-	-	-	21
S. ATLANTIC	2,671	2,538	3	1,358	1,280	2	10	4	480
Del.	8	14	-	16	5	-	-	-	-
Md.	165	162	-	159	88	-	-	-	286
D.C.	94	106	-	41	55	-	4	-	-
Va.	129	190	3	125	118	-	3	1	96
W. Va.	8	8	-	53	51	-	-	-	12
N.C.	288	230	-	217	146	-	1	-	2
S.C.	251	165	-	146	119	-	1	3	11
Ga.	455	481	-	190	258	2	-	-	47
Fla.	1,273	1,181	-	411	438	-	1	-	24
E.S. CENTRAL	528	714	-	563	623	-	3	3	83
Ky.	27	39	-	129	165	-	1	-	20
Tenn.	134	199	-	176	187	-	2	1	41
Ala.	188	297	-	192	162	-	-	2	22
Miss.	181	179	-	68	109	-	-	-	-
W.S. CENTRAL	2,057	2,697	-	841	746	7	5	5	306
Ark.	71	72	-	63	64	5	-	2	41
La.	381	574	-	74	135	1	1	1	7
Okla.	63	77	-	66	83	1	1	-	40
Tex.	1,542	1,974	-	438	484	-	3	2	217
MOUNTAIN	207	229	1	134	182	4	3	1	49
Mont.	-	4	-	8	18	-	1	1	30
Idaho	9	3	-	8	12	-	-	-	-
Wyo.	2	3	-	-	3	-	-	-	-
Colo.	45	53	-	8	16	1	-	-	-
N. Mex.	28	74	-	31	33	-	1	-	7
Ariz.	85	52	-	60	80	1	-	-	12
Utah	6	8	1	9	18	2	-	-	-
Nebr.	34	32	-	10	12	-	1	-	-
PACIFIC	1,321	1,789	7	1,180	1,281	2	39	1	179
Wash.	41	58	-	41	70	-	1	-	1
Oreg.	39	32	2	46	54	1	-	1	-
Calif.	1,214	1,065	5	1,010	1,055	1	34	-	173
Alaska	1	7	-	20	13	-	1	-	5
Hawaii	26	27	-	63	89	-	3	-	-
Guam	-	-	U	3	2	-	-	-	-
P.R.	266	287	-	112	147	-	2	-	10
V.I.	6	8	-	2	1	-	-	-	-
Pac. Trust Terr.	-	-	U	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,\* week ending  
April 21, 1984 (16th Week Ending)

Reporting Area	All Causes, By Age (Years)						P&I** Total	Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	710	514	128	30	19	19	62	S. ATLANTIC	1,055	648	249	77	39	44	52
Boston, Mass.	218	138	50	16	5	9	24	Atlanta, Ga.	142	89	34	12	3	4	5
Bridgeport, Conn.	55	38	9	4	3	1	3	Baltimore, Md.	140	77	38	14	7	4	7
Cambridge, Mass.	26	20	3	-	3	-	-	Charlotte, N.C.	65	39	14	7	4	1	9
Fall River, Mass.	29	25	2	1	1	-	-	Jacksonville, Fla.	60	41	20	4	2	1	2
Hartford, Conn.	46	30	15	1	-	-	-	Miami, Fla.	94	56	24	6	5	3	1
Lowell, Mass.	27	24	3	-	-	-	-	Raleigh, N.C.	58	32	16	6	1	3	4
Lynn, Mass.	26	20	4	2	-	-	-	Richmond, Va.	88	50	22	6	4	-	7
New Bedford, Mass.	27	21	4	1	1	-	-	Savannah, Ga.	42	28	8	4	1	4	5
New Haven, Conn.	63	48	9	3	1	2	3	Tampa, Fla.	84	49	27	3	2	3	5
Providence, R.I.	69	56	11	1	1	1	11	Washington, D.C.	104	52	27	6	7	12	5
Somerville, Mass.	10	8	2	-	-	-	-	Wilmingon, Del.	50	38	13	3	2	-	1
Springfield, Mass.	50	36	8	1	1	4	3								
Waterbury, Conn.	26	19	4	-	3	-	-								
Worcester, Mass.	38	32	4	-	1	1	5								
MID. ATLANTIC	2,782	1,870	805	176	86	65	148	E.S. CENTRAL	729	470	179	52	16	12	38
Albany, N.Y.	87	43	14	2	2	6	5	Birmingham, Ala.	106	59	30	10	4	3	5
Allentown, Pa.	20	17	3	-	-	-	-	Chattanooga, Tenn.	47	32	11	1	3	-	4
Buffalo, N.Y.	130	88	31	3	3	5	13	Knoxville, Tenn.	59	49	8	1	-	-	3
Camden, N.J.	35	28	3	3	-	1	-	Louisville, Ky.	114	69	31	8	3	3	6
Elizabeth, N.J.	29	24	5	-	-	-	-	Memphis, Tenn.	147	101	35	9	1	1	8
Erie, Pa.	45	34	8	1	2	-	-	Mobile, Ala.	62	36	18	6	1	1	8
Jersey City, N.J.	41	28	11	1	1	-	-	Montgomery, Ala.	65	40	20	4	1	-	-
N.Y. City, N.Y.	1,435	956	305	118	35	21	57	Nashville, Tenn.	129	84	26	13	2	4	7
Newark, N.J.	70	37	15	6	5	7	8								
Paterson, N.J.	21	15	4	-	-	-	-								
Philadelphia, Pa.	369	243	98	30	11	17	24								
Pittsburgh, Pa.	69	45	21	1	1	1	3								
Reading, Pa.	32	25	4	2	1	-	-								
Rochester, N.Y.	138	103	26	6	1	2	12								
Schenectady, N.Y.	28	18	7	1	1	1	1								
Scranton, Pa.	26	18	6	1	1	-	-								
Syracuse, N.Y.	112	76	30	4	-	-	2								
Trenton, N.J.	44	32	8	2	2	-	-								
Ulster, N.Y.	20	16	3	1	-	-	-								
Yonkers, N.Y.	31	24	3	3	-	-	1								
E.N. CENTRAL	2,216	1,531	416	124	58	78	80	MOUNTAIN	640	401	135	54	27	23	37
Akron, Ohio	58	40	14	1	-	3	-	Albuquerque, N.Mex.	65	42	13	5	2	3	5
Canton, Ohio	43	29	11	1	2	-	-	Colorado Springs, Colo.	36	21	4	7	3	1	2
Chicago, Ill.	511	444	7	12	20	19	12	Denver, Colo.	124	73	38	9	1	3	10
Cincinnati, Ohio	172	109	60	6	2	8	20	Las Vegas, Nev.	44	46	32	18	5	2	2
Columbus, Ohio	116	90	40	12	4	6	2	Phoenix, Ariz.	153	102	25	10	5	11	4
Dayton, Ohio	128	75	30	15	4	6	2	Pueblo, Colo.	8	5	2	1	-	-	2
Detroit, Mich.	250	144	60	29	6	11	6	Salt Lake City, Utah	46	25	8	4	5	4	2
Evansville, Ind.	49	35	9	2	2	1	2	Tucson, Ariz.	92	71	13	4	4	-	10
Fort Wayne, Ind.	40	30	6	1	1	2	2								
Gary, Ind.	19	10	6	3	1	-	-								
Grand Rapids, Mich.	54	42	7	2	1	2	1								
Indianapolis, Ind.	165	93	51	5	7	9	5								
Madison, Wis.	32	21	3	4	1	3	1								
Milwaukee, Wis.	138	94	36	6	-	2	-								
Peoria, Ill.	32	23	6	1	2	-	-								
Rockford, Ill.	52	36	6	5	3	2	3								
South Bend, Ind.	43	31	10	1	-	1	-								
Toledo, Ohio	108	73	28	2	1	4	7								
Youngstown, Ohio	51	37	9	4	-	1	-								
W.N. CENTRAL	603	496	130	28	14	22	40	PACIFIC	1,955	1,292	426	121	61	53	86
Des Moines, Iowa	58	38	15	2	1	-	-	Berkeley, Calif.	15	13	2	-	-	-	-
Duluth, Minn.	30	18	10	2	-	1	-	Fresno, Calif.	74	47	13	3	6	5	5
Kansas City, Kans.	29	22	5	2	-	-	-	Glendale, Calif.	32	24	5	2	1	-	-
Kansas City, Mo.	98	72	18	2	1	3	16	Honolulu, Hawaii	52	34	11	3	2	2	3
Lincoln, Neb.	19	12	3	2	-	2	-	Long Beach, Calif.	100	65	26	5	2	2	2
Minneapolis, Minn.	91	66	11	2	4	8	4	Oakland, Calif.	63	42	14	4	1	2	6
Omaha, Neb.	79	56	18	4	-	1	2	Pasadena, Calif.	31	28	6	-	-	-	1
St. Louis, Mo.	146	103	28	6	4	5	5	Brentwood, Oreg.	122	84	23	8	5	4	2
St. Paul, Minn.	66	52	10	2	1	1	4	Spokane, Wash.	73	52	18	3	2	-	3
Wichita, Kans.	78	67	12	6	1	2	11	Tacoma, Wash.	50	28	10	3	3	6	2

\* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

\*\* Pneumonia and influenza.

† Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

TOTAL 11,871 7,866 2,540 754 342 375 613

*Alcohol Research—Continued*

Second, they should identify alcohol-related conditions in ICD-9 that were not distinguished in ICDA-8 to provide more complete coverage of alcohol-related health problems.

A conversion table or crosswalk has been developed that alcohol investigators can use to recode alcohol-related underlying cause-of-death data from ICD-9 to ICDA-8.

Several steps are necessary in the recoding process: (1) reviewing the diagnoses included in each alcohol-related category in the two systems and identifying categories—or groups of categories—in ICD-9 that match those in ICDA-8; (2) examining the average yearly number of deaths in each ICDA-8 category in the interval 1975-1978 and comparing the average number of deaths with the number of deaths in corresponding ICD-9 categories in 1979; and (3) adjusting the matched categories to reconcile discrepancies in the data that might result from differences between coding rules and actual practices.

Table 3 presents a list of the new alcohol-related categories in ICD-9. With the exception of "excessive blood level of alcohol," these conditions were included in other ICDA-8 classifications but were not assigned specific codes. The number of deaths attributed to each of these causes in 1979 is shown in column 3. Studies of alcohol-related mortality using data coded in ICD-9 should include these new ICD-9 categories, as well as those considered in earlier studies.

The completed crosswalk of ICD-9 categories to those in ICDA-8 is shown in Table 4. Persons who use mortality data may wish to apply or modify this crosswalk or to meet their requirements. Table 5 presents data related to each of the major groups of alcohol-related categories under the two systems. To allow for comparison, the number of deaths in 1979, based on the crosswalk categories for ICD-9, is shown along with the average yearly number of deaths in the corresponding ICDA-8 categories for the interval 1975-1978.

The number of deaths in the matched categories are generally similar from ICD-9 to ICDA-8, suggesting the crosswalk is valid. However, a detailed review reveals some discrepancies: somewhat more alcoholic psychosis deaths under ICD-9 (1979) than under ICDA-8 (1975-1978); fewer deaths from alcoholic liver disease and from other specified chronic liver diseases. However, there were more deaths in 1979 from unspecified chronic liver disease and from alcohol poisoning. These differences may reflect three factors: (1) actual changes in patterns of mortality from one period to another; (2) differences in diagnostic concepts applied in the Eighth and Ninth Revisions; and/or (3) discrepancies between interpretations and applications of codes.

**TABLE 3. New alcohol-related categories in ICD-9\***

ICD-9 code	Category title	No. of deaths in 1979†	ICDA-8 code that included condition
305.0	Nondependent abuse of alcohol	806	303.0-303.9
357.5	Alcoholic polyneuropathy	4	303.2
425.5	Alcoholic cardiomyopathy	567	303.2
535.3	Alcoholic gastritis	81	303.2
790.3	Excessive blood level of alcohol	13	—
572.3	Portal hypertension (consequence of chronic liver disease)	131	571.8

\*Fetal alcohol syndrome (FAS), which is included in the ICD-9 category of "noxious influences transmitted via placenta or milk" (code 760.7), should also be considered for inclusion in studies of alcohol-related mortality. In 1979, the causes classified as 760.7 together accounted for 11 deaths, but it is not known how many of these involved FAS.

†Data from the National Center for Health Statistics, Public Use Tapes, 1979. Excludes deaths of non-residents of the United States.

*Alcohol Research - Continued*

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**Editorial Note:** Assessment of discontinuities associated with a crosswalk requires a study of the comparability of matched diagnoses under the two systems, usually based on dual coding of a set of records. No detailed comparability study of ICD-9 to ICDA-8 categories applied to mortality data has yet appeared in the literature. The crosswalk of alcohol-related ICD-9 diagnostic categories to those in ICDA-8 provides one of several possible models appropriate for application in studies of alcohol-related mortality. While adoption of a standard crosswalk would have great benefits, a certain level of discontinuity associated with the matches in some categories is evident. Each user should examine the classifications and the data in detail and apply this crosswalk, unless study requirements necessitate a modification. The details of any changes made for a particular study should be documented in the study report.

**TABLE 4. Crosswalk of ICD-9 to ICDA-8: alcohol-related conditions\***

ICD-9 (1979-present)		ICDA-8 (1968-1978)	
Code	Definition	Code	Definition
291.0	Alcohol withdrawal delirium	291.0	Delirium tremens
291.1	Korsokov's psychosis	291.1	Alcohol amnesia syndrome
291.3	Alcohol withdrawal hallucinosis	291.2	Other alcoholic hallucinosis
291.5	Alcohol jealousy	291.3	Alcoholic paranoia
291.2	Other alcoholic dementia	291.9	Other/unspecified alcoholic psychosis
291.4	Idiosyncratic alcohol intoxication		
291.8	Other specified alcohol psychosis		
291.9	Unspecified alcohol psychosis		
303	Alcohol dependence syndrome	303.0-303.9	Alcoholism
305.0	Nondependent abuse of alcohol		
357.5	Alcoholic polyneuropathy		
425.5	Alcoholic cardiomyopathy		
535.3	Alcoholic gastritis		
571.0	Alcoholic fatty liver	571.0	Alcoholic cirrhosis of the liver
571.1	Acute alcoholic hepatitis		
571.2	Alcoholic cirrhosis of the liver		
571.3	Alcoholic liver damage—unspecified		
571.4	Chronic hepatitis	571.8	Other specified cirrhosis (without mention of alcohol or alcoholism)
571.6	Biliary cirrhosis		
571.8	Other chronic nonalcoholic liver disease (571.9†)		
572.3	Portal hypertension (in "Liver Abscess and sequelae of Chronic Liver Disease") (571.9†)		
571.5	Cirrhosis of the liver without mention of alcohol (571.8†)	571.9	Unspecified cirrhosis of the liver (without mention of alcohol or alcoholism)
571.9	Unspecified chronic liver disease without mention of alcohol		
E860	Accidental poisoning by alcohol not elsewhere classified	E860	Accidental poisoning by alcohol
790.3	Excessive blood level of alcohol (303.0-303.9†)		

\*Excludes suicide (E950-E959 under each system), homicide (E960-E969 under each system), and motor vehicle accidents (E810-E823 in ICDA-8 and E810-E825 in ICD-9), which are frequently reported in studies of mortality involving alcohol.

†Condition described in ICD-9 may also be crosswalked to another ICDA-8 code as noted.

**Alcohol Research — Continued**

A comparability study of limited scope was conducted by the National Center for Health Statistics (1) using a 7% sample of death certificates from 1976. Comparability ratios were produced for 72 selected aggregate causes of death reported in many of the tables published in the *Monthly Vital Statistics Report* and in the annual mortality volumes of *Vital Statistics of the United States*. Chronic liver disease and cirrhosis, the only directly alcohol-related diagnosis included in the 72 causes, was represented in aggregate, without distinction between alcohol and nonalcohol varieties; ICD-9 code 571 was crosswalked to ICDA-8 code 571. A comparability ratio of 1.011 (i.e., 1.1% more deaths under ICD-9 than under ICDA-8) was reported. However, any deaths from portal hypertension (ICD-9 code 572.3) were excluded in the ICD-9 count for the category.

It should be noted that matches of diagnoses proposed in the present crosswalk may differ from matches used in other studies and that correspondences may vary according to whether mortality or morbidity data are involved. In addition, proposed matches apply to underlying cause of death and may not be appropriate for data on multiple cause of death.

For more detailed information, contact Henry Malin, National Institute on Alcohol Abuse and Alcoholism, Parklawn Building, Room 14C26, 5600 Fishers Lane, Rockville, Maryland 20857.

**Reference**

1. National Center for Health Statistics. Estimates of selected comparability ratios between dual coding of 1976 death certificates by the Eighth and Ninth Revisions of the International Classification of Diseases. *Monthly Vital Statistics Report*, Supplement, February 29, 1980;28(11).

**TABLE 5. Application of crosswalk of major alcohol-related diagnoses to mortality data**

General description	ICD-9 codes	No. and percent of deaths (1979)*	ICDA-8 codes	Average no. and percent of deaths (1975-1978)*
Alcohol psychosis	291	412 (0.02%)	291	331 (0.01%)
Alcoholism	303, 305.0, 425.5, 357.5, 535.3	5,563 (0.29%)	303	5,054 (0.26%)
Chronic alcoholic liver disease	571.0-571.3	12,547 (0.68%)	571.0	13,020 (0.68%)
Other specified chronic liver disease	571.4, 571.6, 571.8, 572.3	2,764 (0.14%)	571.8	4,048 (0.21%)
Unspecified chronic liver disease	571.5, 571.9	14,540 (0.76%)	571.9	13,931 (0.73%)
Alcohol poisoning	E860.0- E860.9, 790.3	429 (0.02%)	E860	357 (0.02%)

\*Data from the National Center for Health Statistics, Public Use Tapes, 1975-1979. Excludes deaths of nonresidents of the United States. Percentages are based on 1,913,841 resident deaths in 1979 and 1,907,462 average resident deaths over the years 1975-1978.

### Update: Respiratory Virus Surveillance — United States, 1984

Reports of noninfluenza respiratory virus identifications from certain state and university laboratories received by CDC through April 16, 1984, show that respiratory syncytial virus (RSV) identification rates have steadily declined throughout the United States, with the exception of the Pacific region. The rate of RSV identification in that region continued at a low but constant level through March (Table 6). Identification rates peaked in December in the South Atlantic and East South Central regions; in January in the West North Central, West

**Respiratory Virus Surveillance — Continued**

South Central, and East North Central regions; and in February in the New England, Mid-Atlantic, and Mountain regions. Identification of RSV was highest for the entire United States in February. New England reported the largest number of RSV identifications for March and April; 128 (27.2%) of 470 specimens tested were positive for RSV.

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**Editorial Note:** RSV outbreaks are known to vary from year to year in their time of onset, peak occurrence, and duration. From this year's surveillance data, the characteristics of RSV outbreaks varied among the regions. Additional data are needed to clearly define the temporal and geographic patterns of RSV outbreaks in the United States.

**TABLE 6. Respiratory syncytial virus isolates — United States, November 1983-April 1984\***

	New Engl.	Mid-Atl.	E.N. Cent.	W.N. Cent.	S. Atl.	E.S. Cent.	W.S. Cent.	Mtn.	Pac.	Total
Nov. 1983	3	0	0	3	14	4	6	7	2	39
Dec. 1983	10	21	14	13	55	12	15	41	9	190
Jan. 1984	71	66	63	42	37	1	16	150	12	468
Feb. 1984	150	119	60	22	19	6	6	169	7	558
Mar. 1984	111	27	43	4	11	3	3	67	12	281
Apr. 1984	17	6	0	2	3	0	†	16	†	44
Total	362	239	180	86	139	26	46	450	42	1,570

\*Includes isolates identified through April 16, 1984.

†Data pending.

**DEPARTMENT OF  
HEALTH & HUMAN SERVICES**  
Public Health Service  
Centers for Disease Control  
Atlanta GA 30333

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